

AWS Cloud File Transfer Overview

This article provides a high-level view of available methods for file transfers among various NAS and Amazon Web Services (AWS) filesystems or storage systems.

Transferring Files Between NAS and AWS Systems

Transfers Between Your PFE /home or /nobackup Filesystem and an AWS Persistent Filesystem

To use these methods, you must have a configured persistent filesystem and the IP address of a live [AWS dynamic front end](#).

Option 1: Initiate Transfer from a PFE by Using scp

To transfer your file:

```
pfe% scp -i ~/.ssh/id_rsa_yours iii.jjj.kkk.lll:/nobackup/your_user_name/filename .  
pfe% scp -i ~/.ssh/id_rsa_yours -r src iii.jjj.kkk.lll:/nobackup/your_user_name
```

Replace `id_rsa_yours` with the name of the RSA private key file that is set up for you to connect to AWS under your Pleiades `.ssh` directory, and replace `iii.jjj.kkk.lll` with the actual IP address of your live AWS dynamic front end.

Option 2: Initiate Transfer from the AWS Dynamic Front End by Using sup + shiftc

Before you can use this method, follow the instructions in [Downloading SUP to Enable Remote Transfers](#) to install `sup` into your AWS `~/bin` directory.

To transfer your file:

```
aws% which sup  
~/bin/sup  
aws% sup shiftc pfe21.nas.nasa.gov:~/file1 .
```

`sup + shiftc` will choose a transfer protocol for you based on what's available in your AWS environment. You can also specify a transfer protocol explicitly, for example, `scp`, as follows:

```
aws% sup scp file2 pfe21.nas.nasa.gov:
```

Note: You will need to provide your NAS password and PIN+passcode to generate the SUP authentication key, which is valid for 7 days.

Option 3: Initiate Transfer from the AWS Dynamic Front End by Using scp

Before you can use this method, you must set up [SSH passthrough](#) to allow one-step login from AWS to a PFE.

Note: You will need to modify the NAS-provided config file in order to get it working on the HECC AWS Cloud. Modify the file by replacing `Host *.nas.nasa.gov` with `Host pfe*.nas.nasa.gov`
`lfe*.nas.nasa.gov`.

To transfer your file:

```
aws% scp file2 pfe21.nas.nasa.gov:
```

Transfers Between Your PFE /home or /nobackup Filesystem and AWS S3

All users have space under their project's S3 storage. You can use the following set of `nas_s3_XXX` commands on a PFE to view, transfer, and delete files and directories under your S3 root location:

- View: `nas_s3_ls`
- Transfer: `nas_s3_put` and `nas_s3_get`
- Delete: `nas_s3_del`

Read [this article](#) for more information.

Transfers Between your PFE /nobackup Filesystem and an AWS Filesystem Accessible from a PBS Job

Through a PBS job submitted from your Pleiades /nobackup directory, you can add directives to stagein or stageout files or directories to/from the job's `$PBS_O_WORKDIR` on AWS. The `$PBS_O_WORKDIR` could be on a persistent filesystem or a [job-time filesystem](#), depending on the set up of the PBS job.

The available directives are:

```
#CLOUD -stagein_file=path_to_file/file
#CLOUD -stagein_dir=path_to_dir
#CLOUD -stageout_file=path_to_file/file
#CLOUD -stageout_dir=path_to_dir
#CLOUD -stageout_file_delete=output
```

Read [this article](#) for more information.

Transferring Files within AWS

Transfers Between S3 and the Dynamic Front End

You can use the set of `nas_s3_XXX` commands on an AWS dynamic front end to view, transfer, and delete files and directories under your S3 root location:

- View: `nas_s3_ls`
- Transfer: `nas_s3_put` and `nas_s3_get`
- Delete: `nas_s3_del`

Read [this article](#) to find more information.

Transfers Between S3 and \$PBS_O_WORKDIR within a PBS Job

You can use the following directives to copy files between your \$PBS_O_WORKDIR on AWS and your S3 storage on AWS.

Note: \$PBS_O_WORKDIR could physically be on a persistent or a job-time filesystem on AWS.

```
#CLOUD -get_file=path_to_file/file
#CLOUD -get_file=sub_dir/file:upper_dir
#CLOUD -get_dir=path_to_dir
#CLOUD -get_dir=sub_dir:upper_dir
#CLOUD -put_file=src:optional_dest_dir
#CLOUD -put_dir=src_dir:optional_dest_dir
```

Read [this article](#) for more information.

Transfers Between S3 and Job-Time Filesystems within a PBS job

You can use these directives to copy files between a job-time filesystem and your S3 storage on AWS.

```
#CLOUD -volume_get=s3_folder_to_copy_data_from
#CLOUD -volume_put=s3_folder_to_save_data_to
```

Read [this article](#) for more information.

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